

ABSTRACT OF THE DISCLOSURE

The present invention is directed to suppressing the rise of a dielectric constant of insulating film during a procedure of burying wiring in semiconductor devices by using a damascene process, and it is also directed to simplifying a process of manufacturing the semiconductor devices. In terms of a process step of forming protection film on a metal layer during the damascene process, there is employed a combined arrangement of a wash unit where particles are removed from polished substrates with a processing unit where a solution containing an organic substance such as benzotriazole, which tends to be bound to the metal layers, is applied to the metal layers over the substrates after the particles are removed therefrom. For the combined arrangement of the processing unit and the wash unit, either a batch processing unit or a mono/serial processing unit can be employed.

15